

The heart in the *Gadi*, like that of osseous fishes in general, being a venous heart, and, on the other hand, its ventricle and auricle being always deprived of vessels with red blood, it follows necessarily that the venous blood alone serves for the nutrition of muscular fibre, and maintains the contractility of the latter. It is by the repeated conflict of the venous blood and the muscular fibre that is produced the double movement of assimilation and decomposition which constitutes nutrition. We are convinced that the venous blood issuing from the heart would furnish on analysis a somewhat higher proportion of carbonic acid than that which enters the auricle, since the blood driven into the branchial artery must contain in addition the acid formed by the muscles of the auricle and ventricle in consequence of their contraction.—*Comptes Rendus*, January 28th, 1867, pp. 192–194.

On a new Specimen of Telerpeton Elginense.
By Prof. T. H. HUXLEY, LL.D., F.R.S., V.P.G.S.

The specimen which was described in this paper had been broken into five pieces, exhibiting hollow casts of most of the bones of *Telerpeton Elginense*. It is the property of Mr. James Grant of Lossiemouth, and came from the reptiliferous beds of that locality, along with some highly interesting fragments of *Stagonolepis* and *Hyperodapedon*. The casts described by the author consisted of impressions of the bones of the skull, together with the lower jaw and the teeth, of most of the vertebræ and ribs, of the greater portions of the pelvic and scapular arches, and of representatives of most of the bones of the fore and hind limbs; and it was stated that the characters of all these portions of the skeleton indicated decidedly Lacertilian affinities.

In describing these remains, Professor Huxley discussed especially the biconcave character of the vertebræ, the mode of implantation of the teeth (which he believed to be Acrodont, and not Thecodont), and the anomalous structure of the fifth digit of the hind foot (which presents only two phalanges, a proximal and a terminal)—a structure which differs from that of all known Lacertilian Reptiles, whether recent or fossil. His researches had led him to conclude that the animal is one of the Reptilia, and is devoid of the slightest indication of affinity with the Amphibia. In all its characters it is decidedly Saurian, and accords with the suborder Kionocrania of the true Lacertilia; but the author had not been able to make sure that it possessed a columella. He also remarked that the possession by *Telerpeton Elginense* of vertebræ with concave articular faces does not interfere with this view, as, although most recent Lacertilia have concavo-convex vertebræ, biconcave vertebræ much more deeply excavated than those of *T. Elginense* are met with among the existing Geckos.

Professor Huxley in conclusion drew attention to the interesting fact that *Telerpeton* presents not a single character approximating it towards the type of the Permian Proterosauria, or the Triassic

Rhynchosaurus and the probably Triassic African and Asiatic allies of that genus, or to the Mesozoic Dinosauria, and that, whether the age of the deposit in which it occurs be Triassic or Devonian, *Telerpeton* is a striking example of a *persistent type* of animal organization.—*Proc. Geol. Soc.* Dec. 19, 1866.

On the Incubation of the Eggs of the Small Spotted Dogfish (Scylium catulus). By M. COSTE.

At Concarneau, in a reservoir of 1500 metres surface and of 3 metres in depth, divided into six compartments, hollowed out in a granite rock and defended by thick walls from the violence of the waves, we have succeeded, by means of grated floodgates which may be opened or closed at pleasure, in imitating the conditions of the open sea, with its flux and reflux, so well that organic phenomena hitherto most completely concealed in the depths of the ocean are accomplished there under the eye of the observer. Not only do most of the species live there in a state of familiar domesticity, exhibiting all the peculiarities of their habits, but their reproduction is effected, presenting a new field of observation in embryogeny. Of this the following is a fresh example:—

“At the beginning of April 1866,” M. Guillou writes to me, “we put into one of the compartments of the vivarium a pair of the Little Spotted Dogfish (*Squalus catulus*, Linn.). The female laid eighteen eggs in the course of the month. These eggs hatched at the beginning of December; the incubation therefore lasts about nine months. The young are very lively.”

Thus a phenomenon which lasts nine months (and one of the most delicate phenomena, since it implies the formation of a superior organism) may be accomplished under these artificial conditions with as much certainty as if it took place at the great depths where this species usually deposits its eggs. This, in my opinion, is one of the most decisive proofs of the perfection of the vast hydraulic apparatus in which we carry on our experiments. Thanks to the perfection of this apparatus, we shall henceforward study the development of marine species, day by day and hour by hour, just as we investigate that of the chicken in the egg.

At one of the extremities of the vivarium there is a large building, of which the ground-floor is provided with numerous aquaria for the isolation of objects which it is desired to observe closely; whilst its first floor has been converted into rooms for dissections and microscopic observations. Six French and foreign naturalists came last summer to take their places in this laboratory, and devoted themselves in perfect freedom to any investigations that they chose to undertake. I offer the same hospitality to any who may be disposed to profit by it. It is from this laboratory that we have derived all the principles which served for the basis of the regulation of the marine fisheries, and all the methods the application of which justly claims the title of the “agriculture of the sea.”—*Comptes Rendus*, January 21, 1867, pp. 99–100.